DII COE NT Roadmap

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Outline

- Purpose
- Background
- Goals for Windows NT-based COE
- Why Commercialization of COE Kernel
- Outline of commercial kernel
- Phased Approach
- Technical Specifics
  - Windows NT Operating Systems
  - Windows NT Core Components
  - Roadmap by COE Release
    - Kernel
    - Reference
    - Core Technology
    - Infrastructure
    - Common Support Segments
    - Developer Tools
    - Application Program Interface

Purpose:

To present a roadmap for Personal Computers (Windows NT) use in DII COE

Background

- Tasked by CRCB for a 36 month roadmap
- Roadmap to be presented to AOG and CRCB in September 1999
- DISA goals
  - Maximize use of commercial products
  - Transition kernel to industry
- I&RTS 3.1 & 4.0 use commercial standard for COE PCs (The Designed for Windows NT and Windows 98)
- NTAG working with DISA Staff and TWGs on approaches to attain goals for last 18 months

Goals for Windows NT-based COE

- Use Windows NT and Windows 2000, without modification but configured to meet security requirements, as COE for Intel and Alpha based platforms
- Migrate from Logo handbook to the Application Specifications:
  - Desktop Applications
  - Distributed Applications

Goals for Windows NT-based COE (con't)

- The I&RTS will be used to provide:
  - Additional DoD specific requirements
  - Exceptions and changes to Windows Certification Program
- Require NT-based COE platforms to support a Java and Win32 API based infrastructure
- Implement for both Workstation & Servers
- Apply cross platform (to UNIX) only where it makes sense

Why Commercialization of COE Kernel

- Easier to implement COE
- Allows rapid use of new and updated commercial products
- Build Windows NT Logo Program compliant segments
  - Best user experience
  - Works well with other applications/segments and devices
  - Tested
- Utilizes industry standards and practices
  - Makes industry knowledge & skill base available for COE
  - Eliminates dependency's on DoD unique standards/products
- Ability to continue to meet all COE specific requirements
- Ensures COE segments peacefully coexist with non-COE applications

Why Commercialization of COE Kernel (con't)

- Supports ability to viewing and management of segments and non-COE applications at same time
- Supports enterprise deployment (unattended install, installation over LAN, web or Java installation)
- Supports system deployment (use of commercial installation scripts versus SDF's)
- Supports detection of operating system type and version with installation of only applicable files
- Install routines follow standard process soldiers are used too

Why Commercialization of COE Kernel (con't)

- Install, registration and uninstall of services (daemon)
- Supports the installation of Segments Suites with optional components
- Properly registering components (DLLs, executables, classes) so operating system can find the component at runtime
  - Adding required registry keys outside or Local_Machine\Software\COE
- Supports installing with one installation routine to multiple directory structures

Why Commercialization of COE Kernel (con't)

- Special developer training is not required
- Able to support non-standard install requirements (Win32 API available)
- Does not require hard coding of locations for files and directories
- Supports use of only one installation routine (2 step abbreviated install)
- Supports setting file and directory permissions

Outline of commercial kernel

- COE NT Kernel will consist of:
  - NT Operating System and Core Components
  - Baseline Security Configuration
  - Baseline COE Operational Configuration
    - Directory structure (for legacy segments)
    - Registry settings
  - COEInstaller (for legacy segments)
  - Segment Viewer
  - Y2K Compliance

Phased Approach

- Adopt Abbreviated Segmentation process for COTS & GOTS to assist transition to a commercial NT kernel
- Employ Navy's InstallGuard Suite with commercial installation packagers
- Re-look requirement to have the same identical functionality on all COE platforms or on none

Overview Comparison

Current	Planned
Environment	
Windows NT	Windows 2000
COE Installer	Commercial Add/Remove Applet
	Segment Viewer
Development Tools	
Developers Toolkit (VerifySeg, MakeInstall, etc)	InstallGuard & Commercial Packager
Security configuration	Security configuration

NT Roadmap

Technical Specifics

Windows NT Operating Systems

- Windows NT, in all of its commercially licensed forms, are DII-compliant operating systems.
  - Workstation (Professional)
  - Advanced Server
  - Enterprise Server
  - Terminal Server (integrated into Win2000 server)
  - Embedded Windows NT

Windows NT Core Components

- Accessibility Utilities
- ActiveX Data Objects (ADO)
- Backup
- Calculator
- CD Player
- Chat
- Domain Name Server
- Dynamic Host Configuring Protocol (DHCP) Server
- Event Viewer

Windows NT Core Components

- HyperTerminal
- Imaging
- Internet Information Server (IIS)
- Internet Explorer (IE)
- Java Virtual Machine (JVM)
- Mail Postoffice
- Management Console
- Message Queue Server
- Netmeeting Client & Server
- Notepad
- Outlook Express

Windows NT Core Components

- Performance Monitor
- Personal Web Manager
- Paint
- Phone Dialer
- Print Server
- Remote Access Server (RAS)
- Resource Kits
- Scripting Host
- Security Configuration Editor
- Transaction Server (moved into Win2k server OS)

Windows NT Core Components

- User/Domain Manager
- Windows Internet Name Service (WINS)
- Windows NT Diagnostics
- Windows Media Player
- Wordpad

Windows NT Kernel Roadmap

COE Version	3.4	4.0	4.1	4.2
	NT Operating System (OS)	NT Operating System (OS)	NT Operating System (OS)	
	NT OS Core Components	NT OS Core Components	NT OS Core Components	
	COE Component Parent	COE Component Parent	COE Component Parent	
	Windows NT	Windows NT	Windows NT	
	COEInstaller	Java Runtime Environment	COEInstaller	
	System Administration	COEInstaller	System Administration	
	Common Data Store (CDS)	System Administration	Java Runtime Environment	
	Generic Security Services (GSS)	Common Data Store	Common Data Store	
	Y2K Patch	*Account Profile Manager*	*Account Profile Manager*	
		Y2K Patch	*Security Administration*	
		APM Segment	*Perl*	
			Kernel Utilities	
			Icon Display Tool	
			Directory Access	
			Permission Display Engine	
			Y2K Patch	
	Oct 98	Apr 99	Oct 99	Apr 00

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Windows NT Kernel Roadmap

Commercial kernel
COE Core Components

4.2	4.3	5.0
NT Operating System (OS)	*Windows 2000 OS*	Windows 2000 OS
OS Core Components	*OS Core Components*	OS Core Components
COEInstaller	COEInstaller	COEInstaller
Security Configuration	Security Configuration	Security Configuration
Segment Viewer	Segment Viewer	Segment Viewer
Y2K Patch	*Low-light*	Low-light

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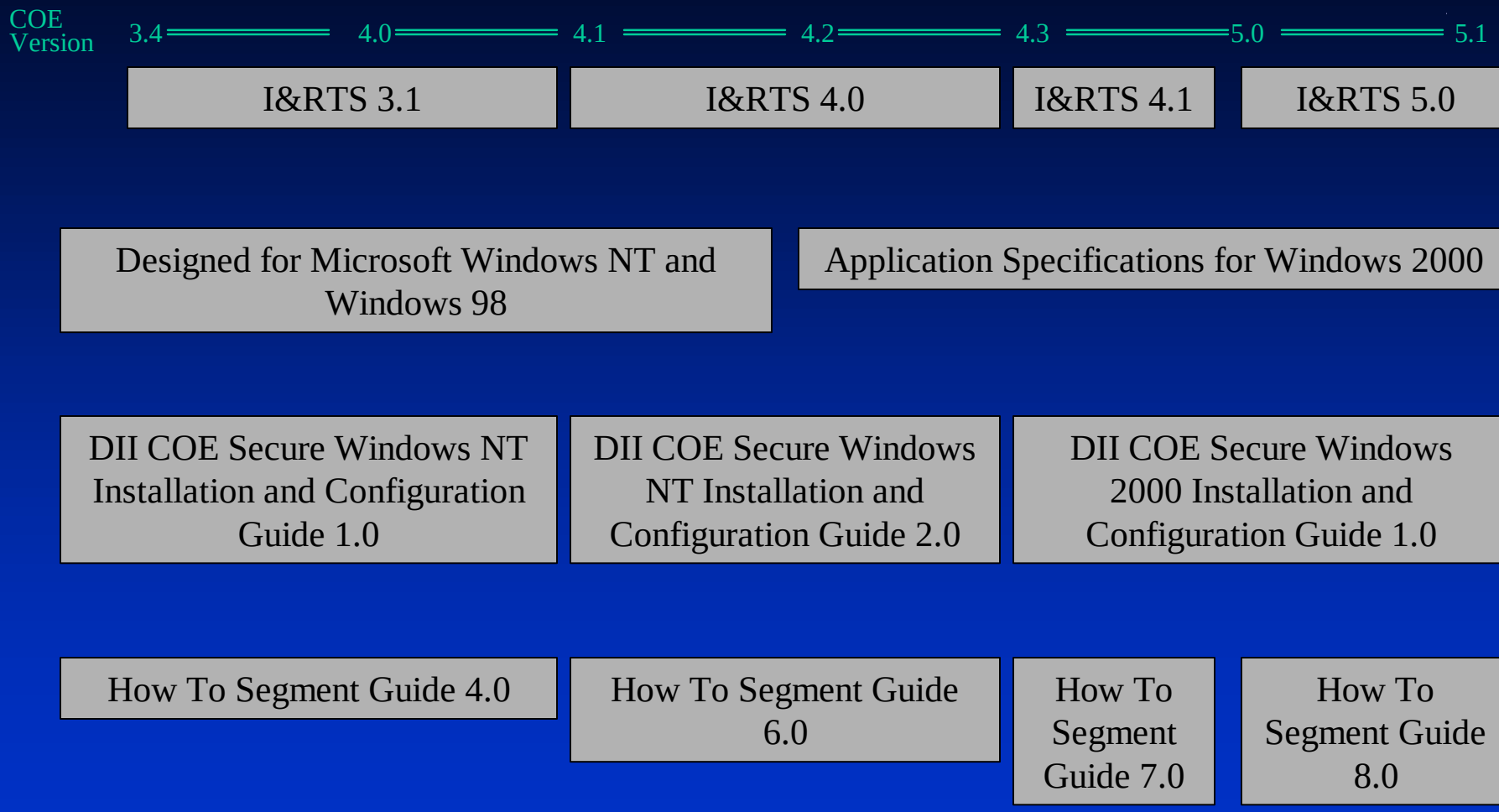
Legacy only

Windows NT COE Reference Roadmap



Windows NT COE Core Technology Roadmap

COE Version	3.4	4.0	4.1	4.2
	•Java documentation •Common Data Store •ActiveX •Management Console •Security Manager •ActveX •ActiveX Data Objects (ADO) •DirectX •Direct3D •OpenGL •Scripting	•Dynamic Host Configuring Protocol (DHCP)	•Java Infrastructure	

Oct 98 Apr 99 Oct 99 Apr 00

Windows NT COE Technology Roadmap

COE Version	4.2	4.3	5.0	5.1
	•Certificates (x509) •Collaboration services •Components (CORBA, COM+, JEB) •Object Linking & Embedding Database (OLE DB)	•Active Directory •Dynamic Host Configuring Protocol (DHCP) and DNS •IP Security (IPSec) •Kerberos •Light Directory Access Protocol (LDAP) •Metadata frameworks (XML, XSL) •Public key Infrastructure (PKI) •Secure Channel •Smartcards •Transaction Processing •Windows Installer Service	•Real Time •Fahrenheit (graphics standard)	

Apr 00 Oct 00 Apr 01 Oct 01

Windows NT COE Infrastructure Roadmap

- Administrative
- Communication
- Configuration
- Data Access
- Distributed Computing
- Multimedia/Collaborative
- Network Management
- Security

Windows NT COE Infrastructure Roadmap for Administration

COE Version	3.4	4.0	4.1	4.2
	•Access •COE Security Banner •DocViewer •Informix •Internet Relay Chatter •Oracle •*Perl* •REMEDY Action request •Sybase •Windows NT (4.0) COE Update System Security Level	•Access •COE Security Banner •DocViewer •Informix •Internet Relay Chatter •*OnlineDocs* •Oracle •Perl •REMEDY Action request •Sybase •*Tivoli (v3.4)* •Windows NT (4.0) COE Update System Security Level	•Access •COE Security Banner •DocViewer •Informix •Internet Relay Chatter •OnlineDocs •Perl •REMEDY Action request •Tivoli (v3.4) •Windows NT (4.0) COE Update System Security Level	
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Windows NT COE Infrastructure Roadmap for Administration

COE Version	4.2	4.3	5.0	5.1
	•Account Profile Manager (APM)	•Account Profile Manager (APM)	•Account Profile Manager (APM)	
	•COE Security Banner	•COE Security Banner	•COE Security Banner	
	•Directory Access	•Directory Access	•Directory Access	
	•DocViewer	•DocViewer	•DocViewer	
	•Icon Display Tool	•Icon Display Tool	•Icon Display Tool	
	•Internet Relay Chatter	•Internet Relay Chatter	•Internet Relay Chatter	
	•Kernel Utilities	•Kernel Utilities	•Kernel Utilities	
	•OnlineDocs	•OnlineDocs	•OnlineDocs	
	•Perl	•Perl	•Perl	
	•Permission Display Engine	•Permission Display Engine	•Permission Display Engine	
	•REMEDY Action request	•REMEDY Action request	•REMEDY Action request	
	•Security Administration	•Security Administration	•Security Administration	
	•System Administration	•Tivoli (v3.4)	•Tivoli (v3.4)	
	•Tivoli (v3.4)	•Windows NT (4.0) COE Update System Security Level	•Windows NT (4.0) COE Update System Security Level	
	•Windows NT (4.0) COE Update System Security Level			
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Administration Segments Required for Windows NT COE Parity With UNIX

- COE Menus N/A
- COE Helper Function Table N/A
- GNU ZIP Compression Utility N/A
- LDAP/SLDAP*
- NewsPrint N/A
- SUN ftptool N/A
- Tool Command language N/A

* Required segment

Windows NT COE Infrastructure Roadmap for Communication

Oct 98 Apr 99 Oct 99 Apr 00

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Windows NT COE Infrastructure Roadmap for Communication

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Communication Segments Required for Windows NT COE Parity With UNIX

- COE Communication Server*
- Tactical Comms Extensions*
- Remote Access N/A

* Required segment

Windows NT COE Infrastructure Roadmap for Configuration

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Windows NT COE Infrastructure Roadmap for Configuration

Apr 00 Oct 00 Apr 01 Oct 01

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Configuration Segments Required for Windows NT COE Parity With UNIX

- Action Request System Server*

* Required segment

Windows NT COE Infrastructure Roadmap for Data Access

COE Version	3.4	4.0	4.1	4.2
	•Access •Microsoft SQL Server •Oracle •Sybase Adpt Server Enterprise •Sybase SQL Anywhere	•Access •Microsoft SQL Server •Oracle •Sybase Adpt Server Enterprise •Sybase SQL Anywhere	•Access •Microsoft SQL Server •Oracle •Sybase Adpt Server Enterprise •Sybase SQL Anywhere	

Oct 98 Apr 99 Oct 99 Apr 00

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Windows NT COE Infrastructure Roadmap for Data Access

COE Version	4.2	4.3	5.0	5.1
	•Access •Microsoft SQL Server •Oracle •Sybase Adpt Server Enterprise •Sybase SQL Anywhere	•Access •Microsoft SQL Server •Oracle •Sybase Adpt Server Enterprise •Sybase SQL Anywhere	•Access •Microsoft SQL Server •Oracle •Sybase Adpt Server Enterprise •Sybase SQL Anywhere	

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Data Access Segments Required for Windows NT COE Parity With UNIX

- Informix*
- DB Administrator Runtime*

* Required segment

Windows NT COE Infrastructure Roadmap for Distributed Computing

Oct 98 Apr 99 Oct 99 Apr 00

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Windows NT COE Infrastructure Roadmap for Distributed Computing

Apr 00 Oct 00 Apr 01 Oct 01

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Distributed Computing Segments Required for Windows NT COE Parity With UNIX

• DCE	N/A
• Object Request Broker	Use COTS

* Required segment

Windows NT COE Infrastructure Roadmap for Multimedia/Collaboration

COE Version	3.4	4.0	4.1	4.2
	•Internet Relay Chat Client	•Internet Relay Chat Client	•Internet Relay Chat Client	
	•Netscape Enterprise Server	•Netscape Enterprise Server	•Netscape Enterprise Server	
	•Netscape Calendar Server	•Netscape Calendar Server	•Netscape Calendar Server	
	•Netscape Collabra Server	•Netscape Collabra Server	•Netscape Collabra Server	
	•Netscape Compass Server	•Netscape Compass Server	•Netscape Compass Server	
	•Netscape Directory Server	•Netscape Directory Server	•Netscape Directory Server	
	•Netscape Messaging Server	•Netscape Messaging Server	•Netscape Messaging Server	
	•Netscape Proxy Server	•Netscape Proxy Server	•Netscape Proxy Server	

Oct 98 Apr 99 Oct 99 Apr 00

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Windows NT COE Infrastructure Roadmap for Multimedia/Collaboration

COE Version	4.2	4.3	5.0	5.1
	•Internet Relay Chat Client •Netscape Enterprise Server •Netscape Calendar Server •Netscape Collabra Server •Netscape Compass Server •Netscape Directory Server •Netscape Messaging Server •Netscape Proxy Server	•Internet Relay Chat Client •Netscape Enterprise Server •Netscape Calendar Server •Netscape Collabra Server •Netscape Compass Server •Netscape Directory Server •Netscape Messaging Server •Netscape Proxy Server	•Internet Relay Chat Client •Netscape Enterprise Server •Netscape Calendar Server •Netscape Collabra Server •Netscape Compass Server •Netscape Directory Server •Netscape Messaging Server •Netscape Proxy Server	

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Multimedia/Collaboration Segments Required for Windows NT COE Parity With UNIX

- None

* Required segment

Windows NT COE Infrastructure Roadmap for Network Management

COE Version	3.4	4.0	4.1	4.2
	•CA-Unicenter TNG •Cabletron SpectroGRAPH •Cabletron SpectroSERVER •Starburst MFTP Server	•CA-Unicenter TNG •Cabletron SpectroGRAPH •Cabletron SpectroSERVER •Starburst MFTP Server	•CA-Unicenter TNG •Cabletron SpectroGRAPH •Cabletron SpectroSERVER •Starburst MFTP Server	

Oct 98 Apr 99 Oct 99 Apr 00

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Windows NT COE Infrastructure Roadmap for Network Management

COE Version	4.2	4.3	5.0	5.1
	•CA-Unicenter TNG •Cabletron SpectroGRAPH •Cabletron SpectroSERVER •Starburst MFTP Server	•CA-Unicenter TNG •Cabletron SpectroGRAPH •Cabletron SpectroSERVER •Starburst MFTP Server	•CA-Unicenter TNG •Cabletron SpectroGRAPH •Cabletron SpectroSERVER •Starburst MFTP Server	

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Network Management Segments Required for Windows NT COE Parity With UNIX

• Sun Solstice Enterprise Manager	N/A
• HP Netmetrics	N/A

* Required segment

Windows NT COE Infrastructure Roadmap for Security

COE Version	3.4	4.0	4.1	4.2
	•McAfee Virus Scan •NT Secure Configuration Tool •Windows NT Security Utilities	•McAfee Virus Scan •*Norton AntiVirus* •NT Secure Configuration Tool •Windows NT Security Utilities	•McAfee Virus Scan •Norton AntiVirus •NT Secure Configuration Tool •Windows NT Security Utilities	
	Oct 98	Apr 99	Oct 99	Apr 00

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Windows NT COE Infrastructure Roadmap for Security

COE Version	4.2	4.3	5.0	5.1
	•McAfee Virus Scan •Norton AntiVirus •*NT Secure Configuration Management Tool* •Windows NT Security Utilities	•McAfee Virus Scan •Norton AntiVirus •NT Secure Configuration Management Tool •Windows NT Security Utilities	•McAfee Virus Scan •Norton AntiVirus •NT Secure Configuration Management Tool •Windows NT Security Utilities	

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Security Segments Required for Windows NT COE Parity With UNIX

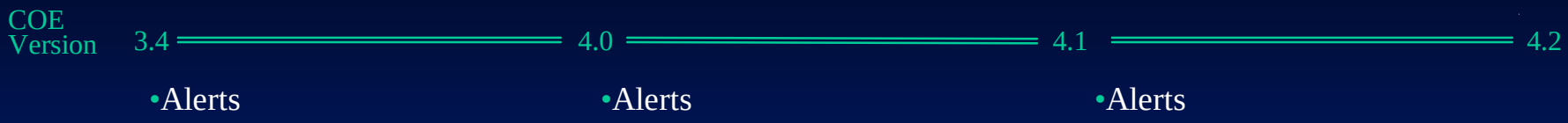
- Intruder Alert*
- Courtney N/A
- Crack N/A
- SATAN N/A
- SPI N/A
- TCP Wrappers N/A
- Tripwire N/A

* Required segment

Windows NT COE Common Support Segment Roadmap

- Alerts
- Common Operational Picture
- Messaging
- Office Automation

Windows NT COE Common Support Segment Roadmap for Alerts



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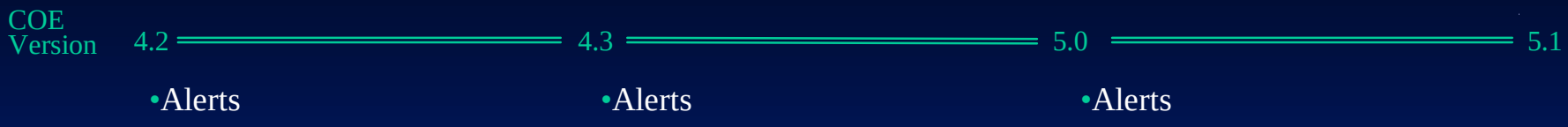
Windows NT COE Common Support Segment Roadmap for Alerts



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Alerts Segments Required for Windows NT COE Parity With UNIX

- Alerts Services Server*

* Required segment

Windows NT COE Common Support Segment Roadmap for Common Operational Picture

COE Version	3.4	4.0	4.1	4.2
	•*Integrated C4I System Framework (ICSF)* •*Joint Mapping Toolkit (JMTK) Spatial Database Module* •*JMTK Analysis*	•Integrated C4I System Framework (ICSF) •JMTK Spatial Database Module •JMTK Analysis	•Integrated C4I System Framework (ICSF) •JMTK Spatial Database Module •JMTK Analysis	

Oct 98 Apr 99 Oct 99 Apr 00

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Windows NT COE Common Support Segment Roadmap for Common Operational Picture

COE Version	4.2	4.3	5.0	5.1
	•Integrated C4I System Framework (ICSF) •Joint Mapping Toolkit (JMTK) Spatial Database Module •JMTK Analysis •*JMTK Utilities* •*Mil-STD-2525 Symbology*	•Integrated C4I System Framework (ICSF) •Joint Mapping Toolkit (JMTK) Spatial Database Module •JMTK Analysis Module •JMTK Utilities •Mil-STD-2525 Symbology	•Integrated C4I System Framework (ICSF) •Joint Mapping Toolkit (JMTK) Spatial Database Module •JMTK Analysis Module •JMTK Utilities •Mil-STD-2525 Symbology	

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COP Segments Required for Windows NT COE Parity With UNIX

- Graphical Situation Display*

* Required segment

Windows NT COE Common Support Segment Roadmap for Messaging

COE Version	3.4	4.0	4.1	4.2
	•Common Message Processor •DMS Lotus Notes Agent •DMS Microsoft Exchange •DMS Microsoft Outlook 98	•Common Message Processor •DMS Lotus Notes Agent •DMS Microsoft Exchange •DMS Microsoft Outlook 98	•Common Message Processor •DMS Lotus Notes Agent •DMS Microsoft Exchange •DMS Microsoft Outlook 98	

Oct 98 Apr 99 Oct 99 Apr 00

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Windows NT COE Common Support Segment Roadmap for Messaging

COE Version	4.2	4.3	5.0	5.1
	•Common Message Processor •DMS Lotus Notes Agent •DMS Microsoft Exchange •*DMS Microsoft Outlook 2000*	•Common Message Processor •DMS Lotus Notes Agent •DMS Microsoft Exchange •DMS Microsoft Outlook 2000	•Common Message Processor •DMS Lotus Notes Agent •DMS Microsoft Exchange •DMS Microsoft Outlook 2000	

Apr 00 Oct 00 Apr 01 Oct 01

New segment

Messaging Segments Required for Windows NT COE Parity With UNIX

- None

* Required segment

Windows NT COE Common Support Segment Roadmap for Office Automation

COE Version	3.4	4.0	4.1	4.2
	•Microsoft Office97 •Netscape Web Browser	•*Acrobat Reader* •Microsoft Office97 •Netscape Web Browser	•Acrobat Reader •*Microsoft Office 2000* •Netscape Web Browser	

Oct 98 Apr 99 Oct 99 Apr 00

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Windows NT COE Common Support Segment Roadmap for Office Automation

- Acrobat Reader
- Microsoft Office 2000
- Netscape Web Browser

- Acrobat Reader
- Microsoft Office 2000
- Netscape Web Browser

- Acrobat Reader
- Microsoft Office 2000
- Netscape Web Browser

Apr 00 Oct 00 Apr 01 Oct 01

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Office Automation Segments Required for Windows NT COE Parity With UNIX

- None

* Required segment

Windows NT Developer Tools Roadmap

COE Version	3.4	4.0	4.1	4.2
	•DII COE Developers Toolkit •Database Segment Creation Tool •ICSF Developer SDK •Joint Mapping Toolkit (JMTK) Utilities Module •JMTK Spatial Database Module (SDBM) •JMTK Analysis Module (JMA)	•DII COE Developers Toolkit •Database Segment Creation Tool •ICSF Developer SDK •Joint Mapping Toolkit (JMTK) Utilities Module •JMTK Spatial Database Module (SDBM) •JMTK Analysis Module (JMA)	•DII COE Developers Toolkit •Database Segment Creation Tool •ICSF Developer SDK •Joint Mapping Toolkit (JMTK) Utilities Module •JMTK Spatial Database Module (SDBM) •JMTK Analysis Module (JMA) •*Collaboration Toolkit* •*Check Compliance Tool*	
	Oct 98	Apr 99	Oct 99	Apr 00

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Windows NT Developer Tools Roadmap

COE Version	4.2	4.3	5.0	5.1
	•DII COE Developers Toolkit •Database Segment Creation Tool •ICSF Developer SDK •Joint Mapping Toolkit (JMTK) Utilities Module •JMTK Spatial Database Module (SDBM) •JMTK Analysis Module (JMA) •Collaboration Toolkit •Check Compliance Tool •*InstallGuard Packager* •*InstallGuard Editor*	•Database Segment Creation Tool •ICSF Developer SDK •Joint Mapping Toolkit (JMTK) Utilities Module •JMTK Spatial Database Module (SDBM) •JMTK Analysis Module (JMA) •Collaboration Toolkit •Check Compliance Tool •InstallGuard Packager •InstallGuard Editor	•Database Segment Creation Tool •ICSF Developer SDK •Joint Mapping Toolkit (JMTK) Utilities Module •JMTK Spatial Database Module (SDBM) •JMTK Analysis Module (JMA) •Collaboration Toolkit •Check Compliance Tool •InstallGuard Packager •InstallGuard Editor	
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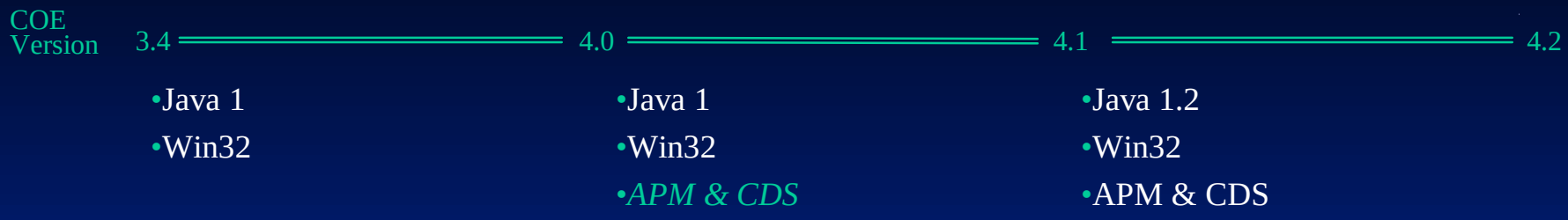
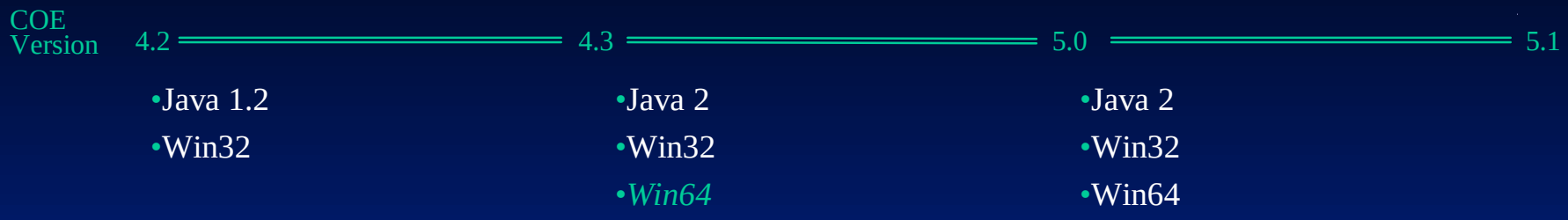
Windows NT kernel Application Program Interface (API) Roadmap



Oct 98 Apr 99 Oct 99 Apr 00

New API

Windows NT Application Program Interface (API) Roadmap